

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 65-66 and 72-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai (JP 294,135) in view of Kaschke (US 5,898,933) and Halliop (US 5,581,438).

Nagai discloses a hybrid power supply that delivers pulse discharges (section 0001), and which includes a battery cell (2), a type of electrochemical device, which would provide potential between the terminals. Mounted to the outside of the housing is a flexible double layer capacitor (1), which is connected to one terminal, the battery housing, via one collecting plate (15), and the other terminal via a lead (17). Thus, the electrochemical device and the capacitor are connected in parallel. While Nagai does not use the term “supercapacitor” his term “double layer capacitor” has the same meaning. This capacitor is used to provide pulse discharge, as to accomplish the equalization of a load over time. The battery includes a sheath (4), which would be flexible packaging, as well as rigid packaging (25). As seen in drawing 9, the double layer capacitor may be wrapped around the outside of the battery. Nagai does not disclose a rigid housing for containing these electrical devices, a cellular telephone that draws pulsed power therefrom, or electrodes comprising a coating such as carbon, which may be activate carbon. Kaschke discloses a cellular telephone (326) that uses a battery for normal operation (column 6, lines 23-29) and receives pulses of current from capacitors (512, 514). The telephone also includes a rigid housing (figures 2, 3A-3C) for containing all of its electronic components. Because the phone of Kaschke uses pulsed power, which is provided by the power supply of Nagai, and because the mechanical protection provided by the housing of Kaschke, it would be

Art Unit: 1795

obvious to use the power supply of Nagai in the cell phone of Kaschke. Halliop discloses a double layer capacitor in which each electrode is made of a carbon layer coated on a substrate (column 1, lines 51-59). Each carbon layer would thus be a coating. Because these electrodes have a large surface area and may be manufactured time-consuming process steps and with less costly materials (column 1, lines 35-48), and because they are intended for double layer capacitors, it would be obvious to use the carbon electrodes of Halliop in the double layer capacitor of Nagai. While the fibers within the carbon composition of Halliop are non-activated (column 2, lines 20-23), the Black Pearls carbon particles (column 2, lines 45-49) is an activated carbon. Recitations of how hybrid power supply components are assembled and connected are treated under product-by-process practice, and are not accorded patentable weight, *in re Fitzgerald* 205 USPQ 594.

Claims 68-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai in view of Kaschke and Halliop as applied to claims 65 and 66 above, and further in view of either Jennings *et al.* (US 5,612,675) or Bartschi *et al.* (US 5,734,976).

These claims differ from the above combination by reciting a switch that isolates at least one of the battery or the supercapacitor from a common terminal. Jennings *et al.* disclose a device that includes a battery (156) in parallel with a capacitor (C1), where the battery may be disconnected by a switch (153). Bartschi *et al.* disclose a device that includes a battery (B1) in parallel with a capacitor (C7), where the battery may be disconnected by a switch (S3). See figure 2. For either reference, the arrangement allows the battery to be disconnected when not needed (Jennings *et al.*, column 11, lines 13-17, Bartschi *et al.*, column 7, lines 29-33). For this

Art Unit: 1795

reason, it would be obvious to use a switch as shown by either Jennings *et al.* or Bartschi *et al.* to disconnect the battery when not need, in the hybrid power source of Nagai, where the supercapacitor therein includes the carbon electrodes of Halliop, and when used in the cellular telephone of Kasche.

Claims 86, 88, 90 and 92 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Each claim recites that the coatings include carbon, but this limitation is already recited by each respective parent claim.

Applicant's arguments with respect to claims 65-93 have been considered but are moot in view of the new ground(s) of rejection.

During an interview on 20 December 2007 with Shawn O'Dowd, an agreement was made to cancel claims 86, 88, 90 and 92, and make claims 87, 89, 91 and 93 to depend directly on claims 65, 68, 72 and 82. However, due to the newly cited art to Halliop, these changes cannot be presently made. Applicants may make these changes in response to this Office Action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Greinke *et al.* (US 5,372,619) teaches Black Pearls carbon particles to be an activated carbon. See Examples 18 and 19.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen J. Kalafut/
Primary Examiner, Art Unit 1795